



# Product Evaluation

DR701 | 1014

Engineering Services Program

*The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.*

*For more information, contact TDI Engineering Services Program at (800) 248-6032.*

**Evaluation ID:** DR-701

**Effective Date:** October 1, 2014

**Re-evaluation Date:** May 2017

**Product Name:** Wood Edge Fiberglass Glazed and Opaque Inswing and Outswing Hinged Doors with Sidelites, Non-impact Resistant

**Manufacturer:** Bison  
1445 West Sam Houston Parkway North  
Houston, TX 77043  
(713) 467-6700

## General Description:

System	Description	Design Pressure Rating
1	Glazed Inswing Hinged Doors with Sidelites; 6'8"; Surface Bolts; Wood Door Frame; OXXO; Adjustable Inswing Sill	+50.5/-50.5 psf
2	Glazed Inswing Hinged Doors with Sidelites; 6'8"; PVC Door Frame; OXXO; Adjustable Inswing Sill	+50.5/-50.5 psf
3	Glazed Inswing Hinged Doors with Sidelites; 6'8"; Wood Door Frame; OXXO; Adjustable Inswing Sill	+50.5/-50.5 psf
4	Glazed Outswing Hinged Doors with Sidelites; 6'8"; Wood Door Frame or PVC Door Frame; OXXO; Standard Outswing Sill	+50.5/-50.5 psf
5	Opaque Inswing Hinged Doors with Sidelites; 6'8"; PVC Door Frame; OXXO; Adjustable Inswing Sill	+50.5/-50.5 psf

**General Description:**

System	Description	Design Pressure Rating
6	Opaque Inswing Hinged Doors with Sidelites; 6'8"; Wood Door Frame; OXXO; Adjustable Inswing Sill	+50.5/-50.5 psf
7	Opaque Outswing Hinged Doors with Sidelites; 6'8"; Wood Door Frame; OXXO; Standard Outswing Sill	+50.5/-50.5 psf
8	Opaque Outswing Hinged Doors with Sidelites; 6'8"; PVC Door Frame; OXXO; Standard Outswing Sill	+50.5/-50.5 psf
9	Opaque Outswing Hinged Doors with Sidelites; 8'0"; Wood Door Frame; OXXO; Standard Outswing Sill	+50.5/-50.5 psf
10	Opaque Inswing Hinged Doors with Sidelites; 8'0"; Wood Door Frame; OXXO	+50.5/-50.5 psf
11	Glazed Outswing Hinged Doors with Sidelites; 8'0"; Wood Door Frame; OXXO; Standard Outswing Sill	+47.0/-47.0 psf
12	Glazed Inswing Hinged Doors with Sidelites; 8'0"; Wood Door Frame; OXXO; Adjustable Inswing Sill	+47.0/-47.0 psf
13	Opaque Inswing Hinged Door; 8'0"; Wood Door Frame or PVC Door Frame; X; Adjustable Inswing Sill	+62.0/-62.0 psf
14	Opaque Inswing Hinged Door; 8'0"; Wood Door Frame or PVC Door Frame; X; ADA Inswing Sill	+62.0/-62.0 psf
15	Opaque Outswing Hinged Door; 8'0"; Wood Door Frame or PVC Door Frame; X; Standard Outswing Sill	+62.0/-62.0 psf
16	Opaque Outswing Hinged Door; 8'0"; Wood Frame or PVC Door Frame; X; Highdam Outswing Sill	+62.0/-62.0 psf

**Product Dimensions - Doors:**

System	Overall Size	Active Panel Size	Passive Panel Size with Astragal	Daylight Opening Size
1	147.50"x81.75"	35.75"x79.25"	36.375"x79.25"	21.00"x62.75"
2	147.50"x81.75"	35.75"x79.25"	36.375"x79.25"	21.00"x62.75"
3	147.50"x81.75"	35.75"x79.25"	36.37"x79.25"	21.00"x62.75"
4	147.50"x80.75"	35.75"x79.25"	36.375"x79.25"	21.00"x62.75"
5	147.50"x81.75"	35.75"x79.25"	36.375"x79.25"	N/A
6	147.50"x81.75"	35.75"x79.25"	36.375"x79.25"	N/A
7	147.50"x80.75"	35.75"x79.25"	36.375"x79.25"	N/A

**Product Dimensions – Doors (cont.):**

System	Overall Size	Active Panel Size	Passive Panel Size with Astragal	Daylight Opening Size
8	147.50"x80.75"	35.75"x79.25"	36.375"x79.25"	N/A
9	105.00"x96.75"	35.75"x95.25"	36.375"x95.25"	N/A
10	105.00"x97.75"	35.75"x95.25"	36.375"x95.25"	N/A
11	147.50"x96.75"	35.75"x95.25"	36.375"x95.25"	21.00"x79.00"
12	147.50"x97.75"	35.75"x95.25"	36.375"x95.25"	21.00"x79.00"
13	37.50"x97.75"	35.75"x95.25"	N/A	N/A
14	37.50"x97.75"	35.75"x95.25"	N/A	N/A
15	37.50"x96.87"	35.75"x95.25"	N/A	N/A
16	37.50"x 96.87"	35.75"x95.25"	N/A	N/A

**Product Dimensions - Sidelites:**

System	Sidelite Panel Size	Daylight Opening Size
1	37.50"x81.75"	21.00"x62.75"
2	37.50"x81.75"	21.00"x62.75"
3	37.50"x81.75"	21.00"x62.75"
4	37.50"x80.75"	21.00"x62.75"
5	37.50"x81.75"	21.00"x62.75"
6	37.50"x81.75"	21.00"x62.75"
7	37.50"x80.75"	21.00"x62.75"
8	37.50"x80.75"	21.00"x62.75"
9	15.50"x96.75"	7.00"x79.00"
10	15.50"x96.75"	7.00"x79.00"
11	37.75"x96.75"	21.00"x79.00"
12	37.75"x97.75"	21.00"x79.00"
13-16	N/A	N/A

**Hardware:**

- **Specimens 1 through 8:**
  - **Hinges:** six required (three per door panel); secure to the door panel with four (4), No. 10 x 1" screws; secure to the doorjamb with three (3), No. 10 x 5/8" screws and one (1), No. 10 x 2-1/2" screws.
- **Specimens 9 through 12:**
  - **Hinges:** eight required (four per door panel); secure to the door panel with four (4), No. 10 x 3/4" screws; secure to the doorjamb with two (2), No. 10 x 3/4" screws and two (2), No. 10 x 2-1/2" screws.
- **Specimens 13 through 16:**
  - **Hinges:** four required; secure to the door panel with four (4), No. 10 x 1" screws; secure to the doorjamb with three (3), No. 10 x 5/8" screws and one (1), No. 10 x 2" screws.
- **Specimens 1 through 16:**
  - **Kwikset Series 400 Lockset or Schlage F-Series Lockset:** locate on the active door panel.
  - **Kwikset Series 980 Deadbolt or Schlage B-Series Deadbolt;** locate on the active door panel.

- **Specimens 1 through 12:**
  - **Strike plate – Lockset:** one required; locate on the doorjamb; secure with two (2), No. 8 x 2-1/2" screws.
  - **Strike plate – Deadbolt:** one required; locate on the doorjamb; secure with two (2), No. 8 x 2-1/2" screws.
  - **Strike plate – astragal:** retainer bolt; secure to the doorframe head with two (2) No. 8 x 2" screws.
- **Specimens 13 through 16:**
  - **Strike plate – Lockset:** one required; locate on the doorjamb; secure with two (2), No. 8 x 2" screws.
  - **Strike plate – Deadbolt:** one required; locate on the doorjamb; secure with two (2), No. 8 x 2" screws.
- **Specimen 1:**
  - **8" Ives Model 453 Surface Bolts (System 5):** two required; locate at the top and bottom of the active lock stile; secure each to the door panel with four (4), 1/4-20 x 1" screws.

#### Thresholds:

- 1.375" high aluminum inswing adjustable threshold (Systems 1, 2, 3, 5, 6, 10, 12, 13)
- 0.952" high aluminum outswing bumper threshold (Systems 4, 7, 8, 9, 11, 15)
- 0.500" high ADA aluminum threshold (System 14)
- 1.482" high aluminum highdam outswing threshold (System 16)

#### Product Identification (Manufacturer Label on Door) – Wood Frame Doors:

System		
1-12	Manufacturer	Bison / Houston TX
	Product Name	Opaque or Glazed Fiberglass Door Unit Inswing or Outswing Config. X, XX, OX, XO, OXO, OXXO
	Test Standards	ASTM E 330
13-16	Manufacturer	Bison / Houston TX
	Product Name	Opaque Fiberglass Door Unit Inswing or Outswing Config. X
	Test Standards	ASTM E 330

#### Impact Resistance:

System	Impact Resistant	Requirement
1-16	No	Provide an impact protective system when installing the product in areas that require windborne debris protection.

**Acceptance of Smaller Assemblies:** The testing accepts door assemblies with dimensions equal to or smaller than those specified within the limitations specified in this report.

**Sidelites:** Only use sidelites with doors. Do not install sidelites individually.

#### Installation

**Systems 1, 2, 3, 5, 6:** Fasten the door assembly to minimum Spruce-Pine-Fir dimension lumber wall framing. Secure the door assembly the wall framing using minimum No. 10 screws as follows:

- **Head (Door and Sidelite):** Minimum No. 10 x 2-1/2" screws; locate approximately 6" from each end; 3" and 6" on each side of the mullion and the astragal, and place one screw at the centerline of each door panel.
- **Sill (Door and Sidelite):** Minimum No. 10 x 2" screws; locate approximately 6" from each end; 3" and 6" on each side of the mullion and the astragal, and place one screw at the centerline of each door panel.
- **Jambs:** Minimum No. 10 x 2-1/2" screws; locate approximately 6" from each corner and space approximately 14" on center.
- **NOTE:** Use fasteners long enough to penetrate a minimum of 1-1/2" into the wood framing. If securing the frame sill to concrete rather than wood-framing members, then substitute a 3/16" diameter concrete anchor for the No. 10 x 2" long screws noted above. Embed the concrete anchor a minimum of 1-1/4" into the concrete.

**Systems 4, 7, 8:** Fasten the door assembly to minimum Spruce-Pine-Fir dimension lumber wall framing. Secure the door assembly to the wall framing using minimum No. 10 x 2-1/2" long flat head screws as follows:

- **Head and Sill (Door and Sidelite):** Locate approximately 6" from each end; 3" and 6" on each side of the mullion and the astragal, and place one screw at the centerline of each panel.
- **Jambs:** Locate approximately 6" from each corner and space approximately 14" on center.
- **NOTE:** Use fasteners long enough to penetrate a minimum of 1-1/2" into the wood framing. If securing the frame sill to concrete rather than wood framing members, then substitute a 3/16" diameter concrete anchor for the No. 10 x 2-1/2" long screws noted above. Embed the concrete anchor a minimum embedment of 1-1/4" into the concrete.

**Systems 10, 12:** Fasten the door assembly to minimum Spruce-Pine-Fir dimension lumber wall framing. Secure the door assembly to the wall framing using minimum No. 10 screws as follows:

- **Head (Door and Sidelite):** Minimum No. 10 x 2-1/2" screws; locate approximately 6" from each end; 3" and 6" on each side of the mullion and the astragal, and place one screw at the centerline of each door panel.
- **Sill (Door and Sidelite):** Minimum No. 10 x 2" screws; locate approximately 6" from each end; 3" and 6" on each side of the mullion and the astragal, and place one screw at the centerline of each door panel.
- **Jambs:** Minimum No. 10 x 2-1/2" screws; located approximately 6" from each corner and space approximately 17" on center.
- **NOTE:** Use fasteners long enough to penetrate a minimum of 1-1/2" into the wood framing. If securing the frame sill to concrete rather than wood-framing members, then substitute a 3/16" diameter concrete anchor for the No. 10 x 2" long screws noted above. Embed the concrete anchor a minimum of 1-1/4" into the concrete.

**Systems 9, 11:** Fasten the door assembly to minimum Spruce-Pine-Fir dimension lumber wall framing. Secure the door assembly to the wall-framing using minimum No. 10 x 2-1/2" long flat head screws as follows:

- **Head and Sill (Door and Sidelite):** Locate approximately 6" from each end; 3" and 6" on each side of the mullion and the astragal, and place one screw at the centerline of each panel.
- **Jambs:** Locate approximately 6" from each corner and spaced approximately 14" on center.
- **NOTE:** Use fasteners long enough to penetrate a minimum of 1-1/2" into the wood framing. If securing the frame sill to concrete rather than wood-framing members, then substitute a 3/16"

diameter concrete anchor for the No. 10 x 2-1/2" long screws noted above. Embed the concrete anchor a minimum of 1-1/4" into the concrete.

**Systems 13, 14, 15, 16:** Fasten the door assembly to minimum Spruce-Pine-Fir dimension lumber wall framing. Secure the door assembly to the wall framing using minimum No. 10 screws as follows:

- **Head and Sill:** Minimum No. 10 x 2-1/2" screws; locate approximately 6" from each end.
- **Jambs:** Minimum No. 10 x 2-1/2" screws; locate approximately 6" from each corner and space approximately 17" on center.
- **NOTE:** Use fasteners long enough to penetrate a minimum of 1-1/2" into the wood framing. If securing the frame sill to concrete rather than wood-framing members, then use a 3/16" diameter concrete anchor. Embed the concrete anchor a minimum of 1-1/4" into the concrete.

**Note:** The manufacturer's installation instructions must be available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.